Strategic Assessment of Market Potential for Fruit and Vegetable Production Expansion in Southeastern Indiana Under Conditions of Improved Market Access

EXECUTIVE SUMMARY

Family farming operations in Indiana seeking income diversification in the value-added specialty crops sector are increasingly at economic risk as a result of inadequate market infrastructure and limited market access. This is particularly the case for tobacco growers in Southeastern Indiana who seek sustainable alternatives through specialty crop production. These growers are characteristically confronted with problems of market access even though market opportunities exist throughout the East North Central Region (ENCR) of the United States. Market access for specialty crops is increasingly concentrated in the hands of large, well capitalized commercial producers who can provide the full range of value-added marketing services (supply consolidation, pre-cooling, grading, packaging, storage, forward distribution, and program account selling) demanded by retail and merchant wholesale buyers. Economically sustainable market infrastructure does not exist for most smaller producers who cannot meet the capitalization and marketing service requirements to accommodate the value-added supply needs of these buyers who set the performance standards in today's marketplace. This increasingly restricts market access and increases economic risk among family farming enterprises seeking income diversification through value-added specialty crop production.

This assessment finds that significant market opportunity (market potential) exists in the ENCR to sustain long-term economic growth in Southeast Indiana's specialty crops (fruits and vegetables) production sector, assuming that market infrastructure is established at the grower-shipper level to help assure that supply consolidation and value-added marketing services are available across a broad spectrum of producers. Under these conditions we estimate that market growth could increase at a 12 percent annualized rate for Southeast Indiana fruit and vegetable producers.

BACKGROUND

In collaboration with Southern Indiana Rural Development Project (SIRDP) this analysis sought to provide a preliminary assessment of market opportunity for establishing a permanent and fully integrated/full service regional market and distribution facility in Southeastern Indiana to serve as the supply consolidation and marketing services "linkage" between family farms engaged in diversified specialty crop production throughout Indiana and retail/merchant wholesale buyers of fresh produce throughout the East North Central Region (ENCR) of the United States. In 1997, 8,296 farmers were growing 8,900 acres of tobacco in Indiana valued at over $32.4 million in farmgate revenues. Currently, there are 6,500 acres of tobacco in Indiana valued at $22.1 million. In addition, there are approximately 2,856 horticultural specialty crop producers statewide seeking more sustainable markets for their production. The farmgate value of horticultural specialty crop production in Indiana totaled over $130 million in 1999, excluding ornamentals and greenhouse crops (Table 1).

FINDINGS

Overview. As economic concentration in the retail sector continues to intensify, the competitive pressure for market access will continue to increase. Small family owned farming enterprises seeking income diversification through value-added specialty crop production, but lacking economically sustainable market access, will continue to witness declining market share unless coordinated supply consolidation and "processing" facilities are developed to help them collectively meet the marketing service and forward distribution requirements of retail and merchant wholesale buyers.

Industry Consolidation. In recent years the U.S. food retailing sector has undergone unprecedented consolidation, economic concentration, and structural change. A number of long-term trends are "driving" this change, including: changing consumer demographics and household buying patterns, intensified competition among retailing institutions, increased consumption of foods away from home, and relatively slow overall growth in the food retailing sector. Overall U.S. retail grocery store sales, after adjusting for inflation, grew only about 1 percent annually

over the last decade … despite a 12.3 percent increase in fresh fruit and vegetable consumption during the period 1987-97 (Table 2). In 1997, U.S. consumers purchased nearly $34.3 billion in fresh produce through supermarkets, supercenters, and convenience stores. Supermarkets accounted for 88 percent of this volume, while supercenters accounted for 10 percent, and convenience stores the remaining 2 percent. Thus, retail supermarkets continue to handle the largest volume of fresh produce purchased for use at home by U.S. consumers. Currently, the four largest retailers in the United States account for 27 percent of all grocery store sales, a 58 percent increase in economic concentration (market power) over the last decade.

Foodservice establishments generated $35.4 billion in produce sales in 1997 (Figure 1). Consumers' busy lifestyles, more women in the workforce, and rising household incomes have resulted in fewer resources spent on preparing food at home, and more spent on food purchases away from home. In 1997, U.S. consumers spent $321.4 billion on all food consumed away from home; 61.6 percent above the $198.9 billion spent in 1987.

Consolidation is also occurring rapidly in the wholesaling sector, especially among general-line grocery wholesalers servicing supermarkets and food service establishments. The five largest general-line grocery wholesalers in 1999 accounted for over 52.5 percent of sector sales, while the five largest general-line food service wholesalers accounted for 32.6 percent of sector sales. These findings clearly indicate that the competition for a larger share of the consumers' food dollar is intensifying, largely through economy of scale strategies. Lower operating, procurement, marketing, and distribution costs have been the primary benefit from such economies of scale among food retailing institutions and wholesalers during the past decade. Collectively, these coordinated actions constitute a new era of supply chain management practices that significantly impact produce growers and grower-shippers. Such industry consolidation has been the primary barrier impacting small producer access into the marketing system for fresh fruits, vegetables, and other specialty produce. The requirements for sustainable market entry today include minimum supply commitments (supply consolidation), value-added marketing services (custom grading, packing, pre-cooling, forward distribution), and program transaction capacity (forward selling, volume/price contracts, timely delivery). For most smaller family farming enterprises this requires some form of collective action in order to meet the volume and performance requirements needed

to achieve sustainable market access and long-term economic viability. With nearly 75 percent of the total economic value from fresh fruits and vegetables created in the marketing system, the economic incentive is high for producers to forward integrate in some manner given the industry's current competitive structure.

Grower-Shipper Trends. The overall industry trends in the retailing and wholesaling sectors, as well as the aforementioned underlying consumer trends, have precipitated the need for increased coordination between growers/grower-shippers and the institutional buying entity. Given consumer demands for product diversity (many selections), availability (year around supply), quality and consistency, retail and wholesale buyers have been forced to consolidate their purchases among those growers and grower-shippers who can assure needed volumes during their respective supply seasons and meet the needed marketing service requirements of the respective buying institution. This has led to supply consolidation within the fresh produce production sector; fewer and larger growers/grower-shippers. Findings indicated that about 91 percent of fresh produce purchased by U.S. retailers is purchased from their top four suppliers. The larger the retailing institution, the more pronounced this trend. Smaller retailing institutions and wholesalers tended to rely less heavily on a few large growers/grower-shippers. However, the trend in *supply consolidation* is well established in the fresh produce sector, and is clearly a *major factor* in determining whether or not individual growers/grower-shippers can meet the volume and value-added marketing service requirements needed to achieve sustainable market access.

We find that supply consolidation is the primary market access impediment confronting producers in Indiana today, followed by customized grading and packing ("processing") services, and capacity for "program selling". Quality and consistency are important factors, but generally not serious impediments to market access for Indiana producers. Research and technical support from Purdue University over the years has provided specialty crop producers with the capacity to produce high quality fruits and vegetables at competitive cost structures.

Consumer Trends. Consumer demand has been the driving force behind industry consolidation trends during the past decade. During this period, U.S. consumers have dramatically changed the way they live and eat. Today traditional family households comprise less than 24 percent of all

U.S. households, and single person/single parent households comprise over 41percent of all domestic households. Working mother households have increased. Ethnic households, particularly Hispanic and Asian, have increased. And median household income has increased to $37,005 in 1997. All of these "consumer driven" forces have substantively changed the structural and performance requirements within the food retailing and wholesaling sector … generally to the overall benefit of the fresh produce sector.

Health considerations. Over the last decade U.S. consumers have become significantly more health conscious, and this has benefited the fresh produce sector dramatically. In 1997, the U.S. population consumed over 35 pounds more fresh fruits and vegetables per capita than they did a decade ago! Fresh vegetable consumption increased 14.3 percent during this period, while fresh fruit consumption increased 9.5 percent (Table 2). Overall, Americans consumed on average 318.8 pounds of fresh fruits and vegetables per capita in 1997!

Consumer demand for healthy foods, with consistent quality and availability, has been a primary factor in the overall increase in fresh fruit and vegetable consumption. These food items have been clinically demonstrated to help reduce the risk of cancer and heart disease, as well as helping maintain balanced diets and body weight. Consequently, fruits like apples, bananas, grapes, watermelon, and cantaloupe, as well as, leafy green vegetables, carrots, tomatoes, and broccoli have led the increase in per capita consumption (Figures 2 and 3).

Consumer demographics. In addition to dietary concerns, consumer demand for convenience has increased substantially during the past decade. As the U.S. population's lifestyles and household demographics have changed, so has the demand for convenience, variety, and consistency of supply. Driven by changing consumer demographics and lifestyles, demand has increased dramatically for packaged salads, fresh-cut vegetables and fruits, and ready-to-eat "veggie" meals, as consumers seek to reduce meal preparation time. Likewise, restaurants and fast food establishments have sought to reduce labor costs through buying more prepared, trimmed, and pre-cut produce. In 1999, spending on foods consumed away from home accounted for 47.5 percent of all food expenditures in the United States, the highest share on record.

In 1987 the typical grocery store carried about 173 produce selections; in 1998 the average number of produce selections increased to 345! Today U.S. households spend less time preparing the meals they eat at home. Thus, convenience is a major factor "driving" produce sales today. Fresh-cut salads, ready-to-eat meals, and branded products have led the increase in fresh produce consumption during the last decade. Recent research has found that 89 percent of retail supermarket shoppers indicate that high quality fruits and vegetables are a primary factor in determining *where they shop* for groceries.

Perhaps among the best demographic indicators for market planning purposes are age of consumer and household income. The aging of the U.S. population is a major factor driving current consumption trends. Consumers between the ages of 35 and 64 accounted for over 52 percent of all household fresh fruit and vegetable purchases in 1998 (Figures 4 and 5). Households with consumers 65 years of age or older, those households with the highest level of purchasing power, accounted for nearly 28 percent of all fresh fruit and vegetable purchases in 1998.

There is a high correlation between household pre-tax income and demand for fresh fruits and vegetables. In all age categories, the highest household dollar expenditure for fresh produce was among the higher household incomes (Table 3).

Other trends. In addition, organically grown and exotic produce selections have gained popularity among U.S. consumers. What was once considered a "consumer fad" is now a well-established consumer trend in the United States. Our research finds that over one-third of the U.S. population now buys organic produce on a regular basis, and 31 percent of all organic produce buyers are in the 18 to 29 age group … consistently younger than the more traditional produce consumer. Overall, organic produce sales have increased over 11 percent annually during recent years, with organically grown vegetables and herbs leading this growth. Organic produce currently represents about 2 percent of all retail produce sales.

SOUTHEAST INDIANA MARKET POTENTIAL

Impact Area. The overall production area that impacts market considerations for this assessment includes 20 counties in Southeast Indiana, 4 counties in Southwest Ohio, and 22 counties in North Central Kentucky; *hereafter referred to as the "impact area"* (Table 1). Collectively these counties are strategically positioned in the ENCR to provide produce supplies through a centralized full-service market facility located in the Southeast Indiana Region. These counties currently comprise over 52,000 acres of tobacco, some for which growers are seeking to diversify into specialty crop production. Growers in these counties currently produce over $11.7 million worth of vegetables annually, and over $3.5 million worth of fruits. Indiana growers in the impact area represent the largest produce suppliers with nearly $10.2 million in farmgate receipts in 1999, accounting for over two thirds of all vegetable and fruit production (Table 1). Growers in Southeastern Indiana produced approximately 7.5 percent of Indiana's total vegetable farmgate receipts in 1999, and 8.9 percent of the total farmgate receipts for fruits. Growth of farmgate receipts in the vegetable sector of Southeastern Indiana increased 15.5 percent between 1997 and 1999; clearly an indication of grower interest and commitment in the region … despite frustrations related to the lack of market access and lost value-chain profit opportunities. But, we find that this trend is not sustainable in an economically viable manner without future commitment to providing the supply consolidation and value-added marketing services needed to remain competitive.

Market Area. Our research concludes that fresh produce growers in the aforementioned impact area can be *highly competitive* in the Metropolitan Statistical Areas (MSA's) within the East North Central Region (ENCR) of the United States, and *selectively competitive* in MSA's located in the Mid-Atlantic and West North Central Regions, given the *current competitive position* and regional advantages of fruit and vegetable producers in Southeastern Indiana (the primary focus of this assessment). Our analysis of market potential includes two market planning horizons: (1) the nine MSA's adjacent to the impact area totaling 77 counties as reported by the U.S. Bureau of Census (Table 8), and (2) the eight Designated Market Areas (DMA's) in the East North Central Region states totaling 485 counties, as established by The Progressive Grocer Marketing Guidebook and A.C. Nielson (Table 6). The later includes many smaller metropolitan areas

within the Primary DMA's "region of influence", thus representing a more comprehensive assessment of demographics and market potential in both primary and secondary markets within the five state ENCR (Illinois, Indiana, Michigan, Ohio and Wisconsin).

Competitive Position. Specialty crop producers in the Southeast Indiana impact area benefit from several key factors, including: competitive raw product production cost structures, selected seasonal market windows with less supply competition, current technology and knowledge transfers that result in optimum yield and yield quality, abundant natural resources and available labor, and lower transport costs to primary markets. This is in contrast to some of the major fruit and vegetable producing regions, like California and Florida, where rising cost structures and diminishing resources are increasingly becoming limiting factors to future market growth. Combined with current growth trends in the fresh produce sector, and current levels of production capacity by growers in Southeastern Indiana, *our research concludes that market-driven vegetable and fruit production growth potential in the Southeast Indiana impact area could increase at a rate of nearly 12 percent annually* over the next 10 to 15 years … assuming that economically sustainable market infrastructure is established (independently or collectively) to fill the value-added marketing service voids currently restricting market access on a broader scale.

Estimated Market Potential. Given our analysis and findings, we estimate that under the more restricted MSA market planning horizon vegetable/fruit growers and grower-shippers in the *primary* Southeast Indiana impact area have a potential for market growth of over $55 million in farmgate receipts; more than *five times* their current volume (Table 10). Further, we estimate that under the more comprehensive DMA market planning horizon for the five states in the ENCR, these same suppliers have a potential for market growth of over $123 million in farmgate receipts; more than *twelve times* their current volume (Table 10). These market potential estimates do not include any supply contribution that might be made by growers in Kentucky or Ohio. However, these market potential estimates *do not translate directly into attainable market share*; they only estimate the potential for market growth under the aforementioned performance conditions found to be necessary for achieving economically sustainable market access.

Estimated Market Share. Our research concludes that production capacity and competitive position exists in the *primary* Southeast Indiana impact area to increase vegetable and fruit supply to ENCR markets 3 to 7 fold ($31 million to $69 million) over current production levels during the next *ten year period*, with the greatest opportunity in fresh vegetables, small fruits, melons, and organic vegetables and herbs. Our retailer and wholesaler surveys, and assessment of performance standards required for growers to achieve market share (that portion of market potential actually achieved), clearly indicate that attainment of such market share will rest with the region's capacity to consolidate supplies and provide some of the most basic and essential value-added marketing services (pre-cooling, grading, custom packing, and program selling/contracting). We found that this market infrastructure capacity does not currently exist on a broad scale in the Southeast Indiana impact area; certainly not at a level commensurate with full exploitation of the market opportunity that is attainable for specialty crop producers in the impact area. Our assessment concludes that this barrier to future production expansion must be removed if the region is to realize its full potential for market growth in the specialty crop sector. Either by individual producers or by collective producer action, modern full-service assembly, post-harvest handling, and forward distribution facilities will be required to achieve market share commensurate with market opportunity. Further, it is important to understand that this market opportunity will not go unfulfilled! The only question is, "which production region in the United States will meet the fresh produce supply requirements of the marketplace in a manner needed to establish competitive market position and increased market share?"

SIGNIFICANT CONCLUSIONS

- Our findings clearly substantiate that sufficient *market potential* exists in the East North Central Region for fresh produce supply from Southeastern Indiana to justify one or more full-service market facilities in the impact area. We estimate that between $31 million and $69 million in market potential exists for fruit and vegetable sector expansion in the Southeast Indiana impact area over the next ten years (Table 10); and nearly double this amount over a fifteen-year planning horizon.

- We find that significant and sustainable market penetration (market share) and growth in the fresh produce sector, however, *will not be achieved without a major commitment* to market infrastructure development. Industry trends at the retail and wholesale produce buying levels dictate that supply consolidation (volume) and value-added marketing services (grading, custom packing, pre-cooling, program selling, etc.) are needed to achieve sustainable market access. Our findings indicated that such market infrastructure is currently lacking in Southeastern Indiana.

- Although not a part of this assessment, we conclude that the feasibility of establishing a major fresh produce supply assembly, "processing", and forward distribution facility in Southeastern Indiana could be greatly enhanced by the large volume of nursery and greenhouse crops currently produced in the impact area (Table 1). Such production has witnessed significant growth in recent years, and represents a viable "jump-start" for the supply assembly and forward distribution components of a new market facility. Such production also offers complementary seasonal supply schedules and potential "strategic leverage" for achieving market access to the retailer and wholesaler levels.

- We further conclude that the adjacent fruit and vegetable producing areas in Kentucky and Ohio provide additional supply/diversification opportunities for supporting an economically viable full-service market facility in Southeastern Indiana (Table 1).

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